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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,789

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Tomoyuki Horiguchi

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EXAMINER

GUGLIOTTA, NICOLE T

ART UNIT

PAPER NUMBER

1783

NOTIFICATION DATE

DELIVERY MODE

06/10/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

Office Action Summary	Application No. 10/564,789	Applicant(s) HORIGUCHI ET AL.	
	Examiner NICOLE T. GUGLIOTTA	Art Unit 1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29, 32 - 40, 42 - 45, 47, 48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29, 32 - 40, 42 - 45, 47, 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner's Note

Examiner acknowledges the amendment to claims 29, 36, 40, 42 & 47. Claims 1- 28, 30, 31, 41 & 46 are cancelled. Claims 29 , 32 – 40 & 42 – 48 are currently pending. Due to Applicant's claim amendment correcting the issue of new matter, the Examiner has re-entered the previously presented rejections over Kato et al. (U.S. Patent No. 4,476,186).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 39 is rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (U.S. Patent No. 4,476,186).

Kato et al. teach a non-woven synthetic leather fabric (Col. 2, Lines 11 – 24), which suggests the use of polyurethane elastomer and dyes as optional, depending upon the application (Col. 5, Lines 24 – 30, 38 - 40). Examples 1 – 3 & 11 of Kato et al. do not include the use of an elastomer. The fibers are entangled with one another (Col. 2, Lines 32 – 45) to form a non-woven fabric.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29, 32 – 38, 40, 42 – 45 & 47 - 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kato et al. (U.S. Patent No. 4,476,186).

MPEP 2112 [R-3] states:

The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "The inherent teachings of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." In re Napier 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection base in part on inherent disclosure in one of the references). See also In re Grasselli, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).

In regard to claims 29 & 40, Kato et al. teach an entangled non-woven fabric for use as synthetic leather, comprising ultra-fine staple fibers having a size not greater than about 0.5 denier (~0.5 decitex) (Col 2., Lines 11 – 45). The apparent density of the non-woven fabric before hydroentanglement is about 0.1 to 0.6 g/cm³. In examples 4, 6 & 8 – 12, Kato et al. determined the weight per unit area to be in the range of 220 g/m² to 540g/m². The staple fibers are 51 mm (5.1 cm) in length (Col. 12, Line 24). In some embodiments, the leather was dyed (Col. 14, Line 55).

Kato et al. suggest the presence of elastomer and dyes as optional, depending upon the application of the fabric (Col. 5, Lines 24 – 28, 38 - 40). In addition, other

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resins, which are non-elastomeric, may also be used as the resin of choice for attaining a grain sheet (Col 5. <lines 31 - 45). Specifically, Examples 1 - 3 & 11 of Kato et al. are specific examples in which elastomers are not used to manufacture their synthetic leather.

It would be reasonable to believe the tensile strength would be 70 N/cm or more and the tear strength would be 3 to 60 N, due to the similarities in process and ingredients used by both Applicant and Kato et al. It has been held that where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a *prima facie* case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). In the current case, Applicant's claimed invention and the prior art (Kato et al.) are substantially identical processes, containing similar ingredients. Therefore, the functional limitations such as the tear strength and the tensile strength would have been anticipated or obvious.

In regard to claim 31, it would be reasonable to believe the 10% modulus in the length direction of the non-woven fabric disclosed by Kato et al. is 8 N/cm or more because Kato et al. has similar properties to that of Applicant's claimed invention. It has been held that where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a *prima facie* case of either anticipation or obviousness will be considered to have been

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established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). In the current case, Applicant's claimed invention and the prior art (Kato et al.) are substantially identical processes, containing similar ingredients. Therefore, the functional limitations, such as the modulus in a particular direction of the fabric would have been anticipated or obvious.

In regard to claims 32, 42 & 45, Kato et al. teach polyamides and polyesters as the fine stable fibers of choice (Col. 7, Lines 15 – 34).

In regard to claim 33, Kato et al. teach in Example 4 needle-punching, water pressurizing (corresponds to Applicant's "hydroentangling") to 100 kg/cm² (9.8 MPa) (Col. 14, Line 5). While the rate of needling is not disclosed for Example 4, the other examples in the reference disclose a needling rate far greater than 500, such as 2,500 needles/cm² (Examples 1) 1500 needles/cm² (Examples 2 & 3). Therefore, it would be reasonable to believe the needling of Example 4 was performed at similar rates.

Removing of sea component of the fibers was then performed (Col. 14, Lines 35- 36).

Example 1 discloses removing of the sea before needle-punching. Example 5 discloses removing of the sea after needle-punching, but before water pressurizing (hydroentangling). Therefore, the reference broadly suggests it would have been obvious to one of someone of ordinary skill in the art at the time of the invention to rearrange the steps to achieve desired results. In addition, it has been held that the

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rearrangement of steps is *prima facie* obvious in the absence of showing the criticality of the order in which the steps are performed. See MPEP 2112.04 [R-6] IV.C.

In regard to claim 34, Kato et al. disclose the apparent density after needle-punching for one embodiment was 0.18 g/cm^3 (Col. 18, Line 62).

In regard to claim 35, Kato et al. teach the shape of the jet nozzle orifice having a diameter of 0.1 – 0.5 mm (Col. 9, Lines 45 - 51).

In regard to claim 36, as discussed above for claim 33, Kato et al. teach removing of the sea after needle punching. Applicant performs the same treatment on the same type of fibers (see the discussion for claims 29, 32, 42 & 45 above). It would be reasonable to believe the same process performed on the same type of fibers would yield the same result. Therefore, Kato et al. disclose forming ultra-fine fibers after needle punching.

In regard to claim 37, Kato et al. disclose slicing the non-woven fabric sheet after hydroentanglement (Col. 16, Lines 64 – 65). Applicant claims the splitting of the sheets is performed before hydroentanglement. However, it has been held that the rearrangement of steps is *prima facie* obvious in the absence of showing the criticality of the order in which the steps are performed. MPEP See MPEP 2112.04 [R-6] IV.C.

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In regard to claim 38, pressing is performed after water jetting (hydrogentangling) (Example 8). The thickness before and after is not disclosed. However, before pressing the density was 0.18 g/cm^3 . After pressing the density was 0.36 g/cm^3 . This suggests a compression of 0.5 the original thickness.

In regard to claim 43, Kato et al. disclose a grain pattern formed by embossing (Col. 18, Lines 31 - 32). Examiner considers a pattern which results from embossing to be a raised surface.

In regard to claim 44, it would be reasonable to believe the non-woven fabric disclosed by Kato et al. attain similar results of an abrasion test by the Martindale method (i.e. abrasion loss after 20000 times of abrasion is 20 mg or less and the number of pills is 5 or less) because the non-woven fabric disclosed by Kato et al. is manufactured by a similar method, comprising similar ingredients. It has been held that where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a *prima facie* case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

3. Claims 47 – 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al., in view of Katayama et al. (U.S. Patent No. 6,537,660 B2).

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In regard to claims 47 – 48, Kato et al. are silent in regard to the presence of small particles in their manufactured non-woven fabric. However, Katayama et al. disclose an ultra-fine non-woven web used as artificial leather (Col. 8, Lines 31) comprising polyester or polyamide fibers (Col. 6, Lines 9 – 38), and particles of 0.1 - 5 μm for use as stabilizers, lubricants, absorbers, antioxidants, antistatic agents, flame retardants, plasticizers, colorants, and crystallization governors (Col. 6, Lines 44 - 60). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include small particles, such as stabilizers, lubricants, and antistatic agents to the artificial leather disclosed by Kato et al. in order to improve the dyeability, as well as maintain the strength and light-weight properties of the artificial leather final product (Col. 1, Lines 62 – 64), as taught by Katayama et al.

4. Claims 29, 32, 39, 40 & 44 – 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadokoro et al. (U.S. Patent No. 5,888,916).

In regard to claims 29, 39, 40, Tadokoro et al. disclose a non-woven fabric comprising staple fibers (Col. 3, Lines 49 - 60) with a fiber fineness of 0.05 denier (0.056 decitex) and 0.8 denier (0.89 decitex) (Col. 9, Lines 37 – 29) or 0.5 denier (0.56 decitex) (Col. 19, Line 32), and a fiber length of 7.5 mm (0.75 cm) (Example 1; Col. 19, Line 32). The fabric has an apparent density of 0.276 to 0.7 g/cm^3 (Abstract & Col. 11, Lines 44 – 59) and a basis weight (weight per unit area) of 10 to 350 g/m^2 (Col. 8, Lines 15 - 19). Considering the tensile strength, tear strength and modulus in the length direction,

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The examiner takes the position a non-woven fabric, such as disclosed by Tadokoro et al., of the same composition as claimed by Applicant would have the tear strength and modulus in the length of direction.

Tadokoro et al. disclose 1.5 cm for a fiber length (Example 4; Col 23, Line 20). “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation”, *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 245 (CCPA 1955); see also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382. See MPEP 2144.05. The fiber lengths of 1.5 cm and 2 cm are reasonably close in value. The optimum ranges for fiber length can be determined through routine experimentation.

Tadokoro et al. are silent in regard to the presence of elastomers or bundles. Therefore, it would be reasonable to believe the non-woven fabric disclosed by Tadokoro et al. does not contain elastomers and is substantially free of bundles of ultra-fine fibers.

Considering claims 40 & 39, Tadokoro et al. disclose the non-woven fabric is used as battery separator and are silent in regard to artificial leather. However, the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, than it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Applicant has failed to note the distinctive structural property that distinguishes their invention as artificial leather.

In regard to claims 32 & 45, Tadokoro et al. discloses the fibers are composed of polyester (Example 8; Col. 26, Lines 30 - 31).

In regard to claim 44, as noted above in MPEP 2112 [R-3], it would be reasonable to believe a non-woven fabric of the similar claimed composition would possess the same properties. Therefore, it would be reasonable to believe the non-woven fabric disclosed by Tadokoro et al. would have an abrasion loss of 20 mg or less after 20,000 times and the number of pills of 5 or less.

5. Claims 47 – 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadokoro et al. (U.S. Patent No. 5,888,916), as applied to claim 40 above, in view of Katayama et al. (U.S. Patent No. 6,537,660 B2).

In regard to claims 47 – 48, Tadokoro et al. are silent in regard to the presence of small particles in their manufactured non-woven fabric. However, Katayama et al. disclose an ultra-fine non-woven web (Col. 8, Lines 31) comprising polyester or polyamide fibers (Col. 6, Lines 9 – 38), and particles of 0.1 - 5 μm for use as stabilizers, lubricants, absorbers, antioxidants, antistatic agents, flame retardants, plasticizers, colorants, and crystallization governors (Col. 6, Lines 44 - 60). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include small particles, such as stabilizers, lubricants, and antistatic agents to the non-woven fabric comprising polyester fibers in order to maintain the strength and light-weight properties of the non-woven fabric (Col. 1, Lines 62 – 64), as taught by Katayama et al.

Response to Arguments

6. Applicants write, “The Applications note with appreciation the Examiner’s comments with respect to the language staying ‘substantially free of bundles of ultra-fine bundles.’...the Applicants have removed that language, thereby rendering the rejection moot. Withdrawal of the rejection is respectfully requested” (Remarks, Pg 5).

EXAMINER’S RESPONSE: Applicant’s arguments with respect to the amended claims have been fully considered and are persuasive. The rejection under 35 U.S.C. §112, first paragraph of claims 29 – 30, 32 – 40 and 42 - 48 has been withdrawn.

7. Applicants note, “Claim 36 stands rejected under 35 USC §112 as being indefinite. The Applicants have accordingly amended Claim 36 to recite that the treatment for forming ultrafine fibers is performed after performing needle punching of the composite fibers. Withdrawal of the rejection is respectfully requested” (Remarks, Pg 6).

EXAMINER’S RESPONSE: Applicant’s arguments with respect to claim 36 have been considered but are moot in view of the new ground(s) of rejection (Kato et al.).

8. Applicant argues, “Claims 29 and 40 recite that the fiber length is 2 cm to 10 cm. This is different from Tadokoro which does not provide a range of fiber lengths, but only multiple examples of fiber lengths...At most, those fiber lengths are 1.5 cm. Thus, they are outside of the Applicants’ claimed range. The Applicants have discovered that having the fiber length in their claimed range provides surprisingly improved physical

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properties such as those described in paragraph [0030] of the Applicants' Specification" (Remarks, Pg 6).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. Tadokoro et al. disclose 1.5 cm for a fiber length (Example 4; Col 23, Line 20). "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation", *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 245 (CCPA 1955); see also *Peterson*, 315F.3d at 1330, 65 USPQ2d at 1382. See MPEP 2144.05. The fiber lengths of 1.5 cm and 2 cm are reasonably close in value. The optimum ranges for fiber length can be determined through routine experimentation.

9. Applicant argues, "...the Applicants note that the non-woven fabric of Tadokoro is prepared by a so-called 'wet-laid' process. Fibers of the short lengths of Tadokoro are particularly suitable for such a wet-laid process. However, the Applicants' fibers of a length of 2 cm to 10 cm are too long for that process are not suitable" (Remarks, Pg 6).

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. If a wet-laid process is suitable for the 1.5 cm fiber length disclosed by Tadokoro et al., it would be reasonable to believe the wet-laid process would also be suitable for a fiber of 2 cm length until otherwise demonstrated with evidence by Applicants.

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10. Applicant argues, “The Applicants respectfully submit that Tadokoro is also inapplicable to Claims 39, 40 and 44 - 46 inasmuch as the Applicants specifically claim ‘an artificial leather sheet.’ Tadokoro does not disclose an artificial leather sheet. Instead, Tadokoro is directed to utterly different subject matter which is a non-woven fabric for a battery separator. Thus, Claims 39, 40 and 44 – 46 are novel over Tadokoro” (Remarks, Pg 6).

EXAMINER’S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. In response to applicant's argument that Tadokoro’s fabric is not directed towards an artificial leather sheet, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Applicant has failed to note the distinctive structural property that distinguishes their invention as artificial leather.

11. Applicant argues, “Claim 39 is also not anticipated by Tadokoro because Claim 39 recites a ‘dyed’ non-woven fabric. Because the non-woven fabric of Tadokoro are battery separators, they contain no dye. Therefore, Tadokoro is inapplicable to Claim 39. Withdrawal of the rejection is respectfully requested” (Remarks, Pg 9).

EXAMINER’S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. The addition of dye is an aesthetic design choice.

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According to MPEP §2144.04 [R-6], "The court found that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art". Dye serves an aesthetic function, not a mechanical function. Therefore, this feature does not hold patentable weight.

12. Applicant argues, "The Applicants nonetheless respectfully submit that Katayama failed to cure the deficiency set forth above with respect to Tadokoro. Thus, even if one skilled in the art were to import the features of Katayama into Tadokoro, the resulting structures would still be different from the underlying subject matter of Claim 40"

(Remarks, Pg

EXAMINER'S RESPONSE: Applicant's arguments have been fully considered but they are not persuasive. Examiner directs Applicant to the discussion above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE T. GUGLIOTTA whose telephone number is (571)270-1552. The examiner can normally be reached on M - F 8:30 a.m. - 6 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783

/NICOLE T GUGLIOTTA/
Examiner, Art Unit 1783